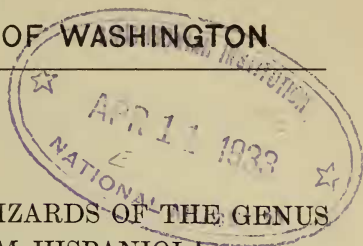


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TWO NEW SUBSPECIES OF LIZARDS OF THE GENUS  
LEIOCEPHALUS FROM HISPANIOLA.

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The distinguishing of the precise degree of relationship between the *Leiocephali* known to occur on Hispaniola has been a task of some difficulty. Due to the scarcity or absence of adequate material from much of the southeastern and south central part of the island, the survey of all the different forms is probably not even now complete, since careful collecting in the future will undoubtedly reveal still other forms more or less distinct from those already known.

In order to make these relationships clear, I have drawn up a key to all the known *Leiocephali* from Hispaniola, including the two new subspecies described below.

KEY TO SPECIES OF *LEIOCEPHALUS* IN HISPANIOLA AND ADJOINING ISLETS.

- a<sup>1</sup>. A distinct lateral fold; four scales between rostral and supraocular ring.
  - b<sup>1</sup>. Sides of neck behind ear covered with small, sharply granular scales; body scales relatively very small.....*L. schreibersii*
  - b<sup>2</sup>. Sides of neck behind ear covered with scales keeled and imbricated like the dorsals; body scales relatively large.....*L. melanochlorus*
- a<sup>2</sup>. No lateral fold; three scales between rostral and supraocular ring (*Leiocephalus personatus* group).
  - b<sup>1</sup>. Frontals and prefrontals smooth.
    - c<sup>1</sup>. Frontals usually in contact with canthals; throat immaculate.....  
*L. p. semilineatus*
    - c<sup>2</sup>. Frontals usually separated from canthals by a wedge-shaped scale; throat heavily spotted with brown.....*L. p. barahonensis*
  - b<sup>2</sup>. Frontals and prefrontals ridged.
    - c<sup>1</sup>. Throat, chin, lips and sides of head solid black in the adult male .....*L. p. personatus*
    - c<sup>2</sup>. Throat not solid black in the adult male.
      - d<sup>1</sup>. Hind leg reaching to between shoulder and ear ..*L. p. scalaris* n.s.s.

*d*<sup>2</sup>. Hind leg reaching to between ear and eye.

*e*<sup>1</sup>. Scales relatively larger, 10–14 in a head length in the adult.

*f*<sup>1</sup>. Mental shield of adult male solidly edged with black.....

*L. p. mentalis* N.S.S.

*f*<sup>2</sup>. Mental shield not solidly edged with black. *L. p. beatanus*

*e*<sup>2</sup>. Scales relatively smaller, 14–16 in a head length in the adult.

*L. p. vinculum*

***Leiocephalus personatus mentalis*, new subspecies.**

1887. *Leiocephalus personatus* GARMAN, Bull. Essex Inst., vol. 19, p. 49, extr. p. 25 (part) (Puerto Plata, M. A. Frazar, coll.).

1914. *Leiocephalus personatus* BARBOUR, Mem. Mus. Comp. Zool., vol. 44, No. 2, p. 302 (part) (Puerto Plata).—? SCHMIDT, Bull. Amer. Mus. Nat. Hist., vol. 44, art. 2, 1921, p. 14 (Monte Cristi, Puerto Plata, Sanchez, Sabaneta).—COCHRAN, Proc. U. S. Nat. Mus., vol. 66, art. 6, 1924, p. 10 (Jovéro).

*Diagnosis*.—Mental shield and lower lips of adult males sepia; remainder of throat pale china blue, immaculate or with a few very minute pale brown spots confined mostly to single scales; sides of head from tip of snout to above the ear sepia, with one or two large pea-green spots below the eye; sometimes a small brown spot just behind the ear; prefrontals seldom touching the canthals; 22–26 lamellae on the fourth toe; hind leg adpressed reaches to the eye or to between ear and eye; 54 to 62 scales between the occiput and the tail, not highly mucronate or noticeably bristling.

*Description of the type*.—U. S. N. M. No. 65772, an adult male from Jovéro, Dominican Republic, collected on Feb. 19, 1923, by Dr. W. L. Abbott. Headshields enlarged, the posterior distinctly ridged, the anterior more faintly; three scales (an internasal and 2 prefrontals) between the rostral and the supraorbital ring; posterior prefrontals much the larger; nasals in contact with rostral; internasals somewhat elongate, barely separated from each other by the first of the series of three medial scales; prefrontals separated from the canthals by a relatively large wedge-shaped scale; two heavy rounded canthal scales followed by three long and narrow superciliaries and two small terminal ones; six distinctly ridged supraoculars separated from the superciliaries anteriorly by 2 rows of small keeled scales and posteriorly by but one row, and from the frontals by a single row; occipital small, bordered by two distinct pairs of parietals on each side; the inner about four times the size of the occipital and a little larger than the outer; an enlarged latero-nuchal scale beyond the outer parietal which is almost half its area; four upper and five lower labials to a point below the center of the eye; temporal scales increasing gradually in size, the last one, just above and in front of the ear, the largest and most conspicuous; anterior border of the ear with five coarse projecting scales, the middle ones the largest. Dorsal scales large, imbricate and moderately mucronate; laterals considerably smaller than the dorsals; ventrals equal to or slightly larger than the dorsals, smooth, their posterior edges denticulate; about 50 scales

around the middle of the body; about 56 scales from the occiput to a point directly above the vent, about 14 dorsal scales the equivalent of the distance from snout to occiput; nuchal scales small, those on the sides of the neck like the dorsals, those behind the ear keeled and imbricate, not granular. Shoulder folds present; no lateral folds. The adpressed hind limb reaches to half-way between the ear and the eye. Digits compressed; the fourth toe with 24 tricarinate lamellae. A distinct crest beginning on the occiput, equally developed on the back and on the proximal portion of the tail but decreasing as the tail tapers; the other caudal scales keeled and mucronate; no verticils. The keels of the lateral and dorsal scales are directed upwards and backwards so that the scale-rows converge strongly on the back. Tail highly compressed. A pair of enlarged post-anals in the male.

*Dimensions.*—Snout to vent, 64 mm.; head to posterior ear, 16.5 mm.; tail, 92 mm.; fore leg, 25 mm.; hind leg, 48 mm.; width of head, 13 mm.

*Color in alcohol.*—Body color sage green above, pale china blue to Nile blue below; very faint indications of sepia crossbars on the nape of the neck; the body-scales above and below the light dorsolateral line with sepia posterior borders, darker towards the center of the back than on the sides of the body; tail with faint indications of sepia crossbars at regular intervals; limbs without bars or spots, but each scale having a powdering of minute sepia spots on its posterior margin; mental shield and lower lips sepia; remainder of throat pale china blue with a few very minute pale brown spots confined mostly to single scales; sides of head from tip of snout to above the ear sepia, with two large pea-green spots below the eye; a small brown spot just behind the ear; top of head olive, with irregular darker markings on most of the scales.

*Variations.*—As to the numbers of prefrontal scales, this species invariably has two. The median snout scales are three in most cases, usually in a single median series, the anterior the smallest and ordinarily separated from the rostral. Sometimes two scales lie side by side, making four and rarely five in the median series.

The supraoculars are six in nearly all cases, although sometimes seven and rarely five are to be counted. The prefrontals usually do not touch the canthals, but sometimes on one side of the head they may do so, while in one instance they touch on both sides. The dorsal scales counted parallel to the dorsal crest from occiput to the beginning of the tail vary between 54 and 62, while from 13 to 15 scales equal the distance between occiput and tip of snout in the adult and from 16 to 17 scales in the young. The scales around the body range approximately between 43 and 52, but the slanting of the scale-rows and the interpolation of new ones makes it nearly impossible to get the same count twice in succession on one individual.

The subdigital lamellae are 22 to 26, usually 23. The ratio of the length of the hind limb compared to the total length of the head and body varies of course with the age and sex of the specimen being studied. Two very young ones obviously just out of the egg, both measuring 27 mm. in combined length of head and body, have the hind legs 85% of that length. The largest adult measuring 83 mm. in length has a hind leg ratio of 72%.

In individuals of the same approximate size, the relative length of the hind limb varies as much as 18%; in the specimens measuring from 50 mm. up to the maximum of 83 mm., the hind leg is anywhere from 67% to 85% of that length, the average being 76% in four specimens. In every case, however, the adressed hind limb reaches at least as far as the anterior border of the ear, and in most cases to between the ear and the eye, and even occasionally as far as the eye itself.

The coloration of adult males is quite uniform. There is an almost total reduction of body pattern, while in contrast to this is the brilliant pattern of dark and light on the lips. The mental shield in all cases is black on the upper border in adult males although the females and young are often nearly immaculate in this region. The top of the head in males is olive-brown, often with darker sepia spots at the posterior supraocular region and on the temporals, and sometimes with light round dots especially concentrated along the canthus and superciliary border. The females and young show a pattern quite similar to that of young *personatus* but slightly coarser. The spots on the throat and chest tend to be arranged in longitudinal series, while on the belly, when they are present, they assume a transverse arrangement towards the sides, as a continuation of the dark spots which usually show in the dark lateral band.

LIST OF SPECIMENS OF *Leiocephalus personatus mentalis*.

U.S.N.M.			
10262-4,	} Puerto Plata, Dominican Republic	1878	C. A. Fraser
10266,			
10269,			
10271			
65770-1	Jovéro, Dominican Republic	Feb. 1, 1923	W. L. Abbott
65772	Jovéro, Dominican Republic	Feb. 1, 1923	W. L. Abbott
Type of <i>L. p. mentalis</i>			
65773	Jovéro, Dominican Republic	Feb. 1, 1923	W. L. Abbott
65774	Samaná and Laguna, Dominican Republic	Mar., 1923	W. L. Abbott
65775-9	Jovéro, Dominican Republic	Feb. 6, 1923	W. L. Abbott
66694-707	Jovéro, Dominican Republic	1923	W. L. Abbott
66708-9	Jovéro, Dominican Republic	Nov. 30, 1923	W. L. Abbott
66710-1	Guarabo, Dominican Republic	Nov. 21, 1923	W. L. Abbott
66712	Jovéro, Dominican Republic	Nov. 30, 1923	W. L. Abbott
66764	Samaná Peninsula, Dominican Republic	1923	W. L. Abbott
M.C.Z.			
5443	Puerto Plata, Dominican Republic	.....	M. A. Frazar
(2 spec.)			
13679-91	Sosúa, Dominican Republic	1916	J. L. Peters

*Leiocephalus personatus scalaris*, new subspecies.

*Diagnosis.*—Color pattern somewhat similar to that of *L. p. mentalis* but less definite; 20–24 lamellae on the fourth toe; adpressed hind leg of the adult reaches between ear and shoulder, very rarely in front of ear; 57 to 64 very spinose dorsal scales between occiput and beginning of tail; occipital scale usually much reduced in size and pushed forward so that the inner parietals are in nearly complete contact with each other.

*Description of the type.*—U. S. N. M. No. 74054, an adult male from Cap-Haïtien, Haiti, taken by A. J. Poole from March 3 to 6, 1928. Head shields enlarged, ridged excepting those bordering the rostral; three scales (an internasal and 2 prefrontals) between the rostral and the supraorbital ring; posterior prefrontals much the larger; nasals in contact with rostral; internasals somewhat elongate, in contact narrowly with each other behind the rostral; internasals, prefrontals and anterior parts of the frontals embracing a median series of three contiguous scales; prefrontals separated from the canthals by a relatively large wedge-shaped scale; two heavy rounded canthal scales followed by three long and narrow superciliaries and two small terminal ones; six (on one side five) distinctly ridged supraoculars separated from superciliaries and from frontals by a row of small keeled scales; occipital exceedingly small, lying at the anterior border of the inner parietals but scarcely shortening their suture, and not distinguishable from the surrounding scales except by its position; the inner and outer parietals approximately equal in size; no conspicuously enlarged latero-nuchal scales; four upper and four lower labials to a point below the center of the eye; temporal scales increasing gradually in size, the last one just above and in front of the ear being the largest and most conspicuous; anterior border of the ear with four rather short projecting scales. Dorsal scales relatively smaller than in the allied forms, imbricate and highly mucronate, the length of the spiny scale-tips giving to the animal a very bristling appearance; laterals as large as dorsals; ventrals larger than either dorsals or laterals, smooth, their posterior edges denticulate; about 46 scales around the middle of the body; about 64 scales from the occiput to a point directly above the vent; about 14 dorsal scales the equivalent of the distance from snout to occiput; nuchal scales small, those on the sides of the neck like the dorsals, those behind the ear keeled and imbricate, not granular. Shoulder folds present; no lateral folds. The adpressed hind limb barely reaches the ear. Digits compressed, the fourth toe with 22 tricarinate lamellae. A very prominent dorsal crest beginning on the occiput, the sharply pointed elongate scales about equally developed along the back and on the distal portion of the tail, then decreasing; the other caudal scales keeled and very highly mucronate; no verticils. The keels of the lateral and dorsal scales are directed upwards and backwards, so that the scale-rows converge strongly on the back. Tail highly compressed. A pair of enlarged post-anals in the male.

*Dimensions.*—Snout to vent, 75 mm.; head to posterior ear, 17 mm.; tail defective; fore leg, 27 mm.; hind leg, 57 mm.; width of head, 13 mm.

*Color in alcohol.*—Body color dull sage green above, glaucous blue to china blue below; a wide light dorsolateral stripe; another similar light

lateral stripe from axilla to groin; indications of sepia crossbars on the nape of the neck; the body-scales above and below the light dorsolateral line with sepia posterior borders, and sometimes the upper half of each scale dark also; tail with faint indications of sepia crossbars at regular intervals; limbs sage green, without bars or spots; the lower lip spotted with triangular sepia markings which coincide with the sutures between the lower labials; mental plate edged anteriorly with sepia; a few sepia spots along the chin below the labials; the remainder of the throat immaculate china blue; sides of head from tip of snout to a little above and behind the ear sepia, with two or three pale cream spots on the upper lip, the last of these continuing backwards to the ear and fading out as a light streak a little way behind the ear; top of head olive; the rostral and internasals and nasals sepia; a sepia spot between the posterior prefrontals and an indistinct marking of the same hue on the frontals and supraoculars.

*Paratypes*.—U. S. N. M. Nos. 74047-53, 74055-74, all from the same place and collected on the same date as the type specimen.

*Variations*.—The species under consideration, like the others of its group in Haiti, has two prefrontals. The medial series of scales on top of the snout are most often three in number, although two, four and even five are known to occur. Supraoculars are usually six, although some individuals have but five. The dorsal scales counted from the occiput to the beginning of the tail range from 57 to 66 in number, while around the body there are from 41 to 49 uneven diagonal rows. There are usually 14 or 15 dorsal scales in the distance from tip of snout to occiput; exceptional specimens have 12 and 13 up to 17 scales in that distance. The subdigital lamellae are from 20 to 24 in number, with 23 occurring most often.

The proportion of the head and body to the length of the hind leg is between 60% and 79% in the lizards above 50 mm. in length, the average leg length being 72% of the head and body in eighteen cases. The hind leg when adpressed very seldom reaches beyond the anterior border of the ear, and most often falls considerably behind the ear, while sometimes it just reaches the shoulder. In five lizards under 43 mm. in length the leg proportion averaged 75.4%.

While the coloration of *L. p. scalaris* strongly resembles that of *L. p. mentalis* in a general way, yet the specific differences, in adult males at least, are well marked. The latter subspecies has the very dark patch on the side of the head ending sharply at the upper border of the ear or a scale or two behind it, while there is no distinct dark lateral stripe continuing backwards from it. In the former subspecies the dark area on the side of the head is rather ill-defined, although behind the ear it may be seen to merge with the dark lateral stripe, which remains more or less distinct in the adult. The heavily mucronate body scales of *scalaris* give it a much more bristling aspect than is the case with the much sleeker *mentalis*. Both species have a similar pattern on the mental and labials, and the relation between them seems to be rather close, although the short hind leg and more mucronate scales of *scalaris* separate it readily from its ally. The young, however, are practically indistinguishable. None but the original series has as yet come to hand.